WHAT IS CLAIMED IS:

1. A closed loop three color alignment system for a digital projector comprising:

a light source;

an optical engine which splits a beam of light from said light source into first, second, and third wavelength bands;

a first, second, and third spatial light modulator which imparts image data and first, second, and third fiducial data respectively to said first, second, and third wavelength bands;

wherein said first, second, and third wavelength bands are directed respectively to said first, second, and third spatial light modulator;

a combiner which combines said modulated first, second, and third wavelength bands;

a diverter which diverts a portion of said combined modulated wavelength bands to a sensor;

wherein said sensor senses a relative position of the each of said fiducials and sends said position information to a microprocessor;

wherein said microprocessor determines an error based on said relative position of said fiducials;

wherein said microprocessor sends a signal to at least one component of said system to resolve said error; and

wherein said at least one component is an actuator.

2. The closed loop three color alignment system of claim 1 wherein said actuator reduces x, y error.

3. The closed loop three color alignment system of claim 1 wherein said actuator is a piezo-electric motor.

4. The closed loop three color alignment system of claim 1 wherein said actuator is a motor and lead screw.

5. The closed loop three color alignment system of claim 1 wherein said actuator resolves said errors in six axes.

6. The closed loop three color alignment system of claim 1 wherein said actuator is connected to at least one of said spatial light modulators.

7. The closed loop three color alignment system of claim 6 wherein said actuator moves said spatial light modulator to change a focus position of said spatial light modulator.

8. The closed loop three color alignment system of claim 1 wherein said actuator is connected to an optical element of said optical engine.

9. The closed loop three color alignment system of claim 8 wherein said actuator moves said optical element to change a focus position of said spatial light modulator.

10. The closed loop three color alignment system of 1 wherein said microprocessor determines said error continuously.

11. The closed loop three color alignment system of 1 wherein said microprocessor determines said error at predetermined intervals.

12. The closed loop three color alignment system of 1 wherein said microprocessor sends said signal to said component continuously.

13. The closed loop three color alignment system of 1 wherein said microprocessor sends said signal to said component at predetermined intervals.

14. The closed loop three color alignment system of 1 wherein said first second and third fiducial data are comprised of a single pattern.

15. The closed loop three color alignment system of 1 wherein said single fiducial pattern is used by said component to resolve said error in two dimensions.

16. The closed loop three color alignment system of 1 wherein said microprocessor sends a signal to a driver for said spatial light modulator to index a row start position of said spatial light modulator.

17. The closed loop three color alignment system of 1 wherein said microprocessor sends a signal to a driver for said spatial light modulator to index a column start position of said spatial light modulator.

18. The closed loop three color alignment system of 16 wherein said driver of said spatial light modulator provides a coarse error correction and said component provides a fine error correction.

19. The closed loop three color alignment system of 18 wherein said driver of said spatial light modulator provides said coarse error correction to within approximately half a pixel.

20. The closed loop three color alignment system of 1 wherein said error is selected from a group comprised of skew error, position error, and focus error.

21. A closed loop three color alignment system for a digital projector comprising:

a light source;

an optical engine which splits a beam of light from said light source into first, second, and third wavelengths bands;

a first, second, and third spatial light modulator which imparts image data and first, second, and third fiducial data respectively to said first, second, and third wavelengths bands;

wherein said first, second, and third wavelengths bands are directed respectively to said first, second, and third, spatial light modulator;

a combiner which combines said modulated first, second, and third wavelengths bands;

a sensor which senses a relative position of the each of said fiducials and sends said position information to a microprocessor;

wherein said microprocessor determines an error based on said relative position of said fiducials;

wherein said microprocessor sends a signal to at least one of a plurality of components of said system to resolve said error; and

wherein one of said components is an optical element.

22. The closed loop three color alignment system of claim 21 wherein said at least one component is an optically transparent plate.

23. The closed loop three color alignment system of claim 21 wherein said optically transparent plate rotates in a plurality of axes.

24. The closed loop three color alignment system of claim 21 wherein said at least one component is prism.

25. The closed loop three color alignment system of claim 21 wherein said at least one component is a k-mirror.

26. The closed loop three color alignment system of claim 21 wherein said at least one of said spatial light modulators is used as a reference and does not move.

27. The closed loop three color alignment system of claim 21 where at least one component is an actuator which translates said spatial light modulators in an x and y of said direction and a second component is a prism which corrects a skew error.

28. The closed loop three color alignment system of 21 wherein said microprocessor determines said error continuously.

29. The closed loop three color alignment system of 21 wherein said microprocessor determines said error at predetermined intervals.

30. The closed loop three color alignment system of 21 wherein said microprocessor sends said signal to said component continuously.

31. The closed loop three color alignment system of 21 wherein said microprocessor sends said signal to said component at predetermined intervals.

32. A closed loop three color alignment system for a digital projector comprising:

a light source;

an optical engine which splits a beam of light from said light source into first, second, and third wavelengths bands;

a first, second, and third spatial light modulator which imparts image data and first, second, and third fiducial data respectively to said first, second, and third wavelengths bands;

wherein said first, second, and third wavelengths bands are directed respectively to said first, second, and third, spatial light modulator;

a combiner which combines said modulated first, second, and third wavelengths bands;

a diverter which diverts a portion of said combined modulated wavelengths bands to a sensor;

wherein said sensor senses a relative position of the each of said fiducials and sends said position information to a microprocessor;

wherein said microprocessor determines an error based on said relative position of each of said fiducials;

wherein said microprocessor sends a resolving signal to an actuator on at least one of said spatial light modulators to resolve said error; and

wherein said resolving signal is sent by said microprocessor when said image data is substantially uniform across said spatial light modulators.

33. The closed loop three color alignment system of claim 32 wherein said actuator reduces x, y error.

34. The closed loop three color alignment system of claim 32 wherein said actuator is a piezo-electric motor.

35. The closed loop three color alignment system of claim 32 wherein said actuator is a motor and lead screw.

36. The closed loop three color alignment system of claim 32 wherein said actuator resolves said errors in six axis.

37. The closed loop three color alignment system of claim 32 wherein said actuator is connected to at least one of said spatial light modulators.

38. The closed loop three color alignment system of claim 32 wherein said actuator moves said spatial light modulator to change a focus position of said spatial light modulator.

39. The closed loop three color alignment system of claim 32 wherein said actuator is connected to an optical element of said optical engine.

40. The closed loop three color alignment system of claim 39 wherein said actuator moves said optical element to change a focus position of said spatial light modulator.

41. The closed loop three color alignment system of 32 wherein said first second and third fiducial data are comprised of a single pattern.

42. The closed loop three color alignment system of 32 wherein said single fiducial pattern is used by said component to resolve said error in two dimensions.

43. The closed loop three color alignment system of 32 wherein said microprocessor sends a signal to a driver for said spatial light modulator to index a row start position of said spatial light modulator.

44. The closed loop three color alignment system of 43 wherein said driver of said spatial light modulator provides a coarse error correction and said component provides a fine error correction.

45. The closed loop three color alignment system of 44 wherein said driver of said spatial light modulator provides said coarse error correction to within approximately half a pixel.

46. The closed loop three color alignment system of 32 wherein said error is selected from a group comprised of skew error, position error, and focus error.

47. The closed loop three color alignment system of claim 32 wherein said microprocessor sends a signal to a driver for said spatial light modulator to index a column start position of said spatial light modulator.

48. A closed loop three color alignment system for a digital projector comprising:

a light source which produces first, second, and third wavelength bands;

a first, second, and third spatial light modulator which imparts image data and first, second, and third fiducial data respectively to said first, second, and third wavelength bands;

wherein said first, second, and third wavelength bands are directed respectively to said first, second, and third spatial light modulator;

a combiner which combines said modulated first, second, and third wavelength bands;

a diverter which diverts a portion of said combined modulated wavelength bands to a sensor;

wherein said sensor senses a relative position of the each of said fiducials and sends said position information to a microprocessor;

wherein said microprocessor determines an error based on said relative position of said fiducials;

wherein said microprocessor sends a signal to at least one component of said system to resolve said error; and

wherein said at least one component is an actuator.

49. The closed loop three color alignment system of claim 48 wherein said actuator reduces x, y error.

50. The closed loop three color alignment system of claim 48 wherein said actuator is a piezo-electric motor.

51. The closed loop three color alignment system of claim 48 wherein said actuator is a motor and lead screw.

52. A closed loop three color alignment system for a digital projector comprising:

a light source;

an optical engine which splits a beam of light from said light source into first, second, and third wavelength bands;

wherein said first, second, and third wavelength bands are directed respectively to a first, second, and third spatial light modulator, which impart image data and first, second, and third fiducial data respectively to said first, second, and third wavelength bands;

a sensor which senses a relative position of the each of said fiducials and sends said position information to a microprocessor;

wherein said microprocessor determines an error based on said relative position of said fiducials;

wherein said microprocessor sends a signal to at least one of a plurality of components of said system to resolve said error; and

wherein one of said components is an optical element.

53. A closed loop three color alignment system for a digital projector comprising:

a light source;

an optical engine which splits a beam of light from said light source into first, second, and third wavelength bands;

a first, second, and third spatial light modulator which imparts image data and first, second, and third fiducial data respectively to said first, second, and third wavelength bands;

wherein said first, second, and third wavelength bands are directed respectively to said first, second, and third spatial light modulator;

a combiner which combines said modulated first, second, and third wavelength bands;

a diverter which diverts a portion of said combined modulated wavelength bands to a sensor;

wherein said sensor senses a relative position of the each of said fiducials and sends said position information to a microprocessor;

wherein said microprocessor determines an error based on said relative position of said fiducials; and

wherein said microprocessor sends a signal to a driver for said spatial light modulator to index a row or column start position.